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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/520,208	12/28/2004	Risto Saarinen	4819-4734	9825

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EXAMINER	
KERNs, KEVIN P	

ART UNIT	PAPER NUMBER
1725	

NOTIFICATION DATE	DELIVERY MODE
10/04/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/520,208

Applicant(s)

SAARINEN ET AL.

Examiner

Kevin P. Kerns

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 September 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 December 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application
- ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cordier et al. (US 4,437,651).

Cordier et al. disclose a method for manufacturing a cooling element to be used in a furnace, such that the cooling element comprises a housing, in which there is formed a channel for circulating fluid, and a lining element (12) made of fireproof material. The housing and lining element including a means for connecting them together (grooves 10 and 11). The lining element can move in a vertical direction with

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respect to the housing (figure 1). The lining element arranging a bracket-like edge part that fits in the groove provided in the housing. The groove is arranged in the housing from the groove bottom towards the surface of the housing. The groove is positioned in the vertical position (figures). Cordier et al. fail to teach that the housing is made of copper and the dimensions of the groove.

However, Cordier et al. disclose that the housing is made of iron, in which iron is a highly conductive material. Therefore, substituting iron with copper would have been obvious to one of ordinary skill in the art, since both materials are highly conductive and choosing one over the other would have been merely a design choice. Furthermore, the dimensions of the groove would have been obvious to one of ordinary skill in the art, since this depends on the size of the liner to place therein. Therefore, the size of the groove is dependent to the type of liners.

Response to Arguments

4. The examiner acknowledges the applicants' amendment/response received by the USPTO on September 17, 2007. Claims 1-18 remain under consideration in the application.

5. Applicants' arguments filed September 17, 2007 have been fully considered but they are not persuasive.

With regard to the applicants' remarks/arguments on pages 5-7 of the amendment, the applicants argue that 1) Cordier allegedly does not allow for the

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refractory lining to move in a vertical direction (paragraph bridging pages 5 and 6 of the remarks section); and 2) Cordier allegedly does not teach that the housing of the cooling plates are "made of a single piece" (1st full paragraph on page 6 of remarks).

The examiner respectfully disagrees. First, under the broadest reasonable interpretation, the refractory lining is able to move in a vertical direction with respect to the housing, as independent claims 1 and 17 do not disclose "relative" movement, as well as that these structural elements would move during operation of the furnace. In other words, "can move in the vertical direction..." (claim 1) and "movable in the vertical direction..." (claim 17) does not preclude an assembly/disassembly process of the components. During patent examination, the pending claims must be "given the broadest reasonable interpretation.". Applicant always has the opportunity to amend the claims during prosecution, and broad interpretation by the examiner reduces the possibility that the claim, once issued, will be interpreted more broadly than is justified. *In re Prater*, 415 F.2d 1393, 1404-05, 162 USPQ 541, 550-51 (CCPA 1969). In the instant case, the broadest reasonable interpretation of the term "movable with respect to one another" would mean "movable under any conditions, not just during operation". Second, "made of a single piece" is also interpreted as not necessarily being "integral", but also that two components are fastened or bonded together. In this instance, the cooling elements (being connected together) operate as a "single piece", and thus this argument is unpersuasive. Applicant always has the opportunity to amend the claims during prosecution, and broad interpretation by the examiner reduces the possibility that the claim, once issued, will be interpreted more broadly than is justified. *In re Prater*,

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415 F.2d 1393, 1404-05, 162 USPQ 541, 550-51 (CCPA 1969). In the instant case, the broadest reasonable interpretation of the term "made of a single piece" would mean "two or more pieces connected together, but operating as a single piece". Regarding the applicants' argument (paragraph bridging pages 6 and 7 of the remarks) that states "by using these dimensions, there is achieved a cooling element that is functional and advantageous from the production technical point of view", the examiner respectfully disagrees, as dimensions are merely design choice which would be obvious by routine experimentation by one of ordinary skill in the art. Furthermore, the applicants have not provided any evidence in the form of an affidavit/declaration to show unexpected results to distinguish over Cordier et al. As a result, claims 1-18 remain rejected.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr. Kevin P. Kerns whose telephone number is (571) 272-1178. The examiner can normally be reached on Monday-Friday from 8:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jonathan Johnson can be reached on (571) 272-1177. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Kevin P. Kerns *Kevin Kerns 9/29/07*
Primary Examiner
Art Unit 1725

KPK
kpk
September 29, 2007